PERTUSSIS

Pertussis (whooping cough) is a highly contagious disease of the respiratory tract caused by the bacterium *Bordetella pertussis.* The disease can progress to severe paroxysms of cough, often with a characteristic inspiratory whoop. Pertussis is primarily a very contagious childhood disease that can be particularly severe in infants less than one year of age. Transmission occurs by direct contact with aerosol droplets from the respiratory tract of infected persons. Immunization beginning at two months of age is recommended and completion of the four injection series is required for protective immunity.

Laboratory Criteria for Diagnosis:

- Isolation of *Bordetella pertussis* from clinical specimen, **OR**
- Positive polymerase chain reaction (PCR) for *B. pertussis*.

Case Classification

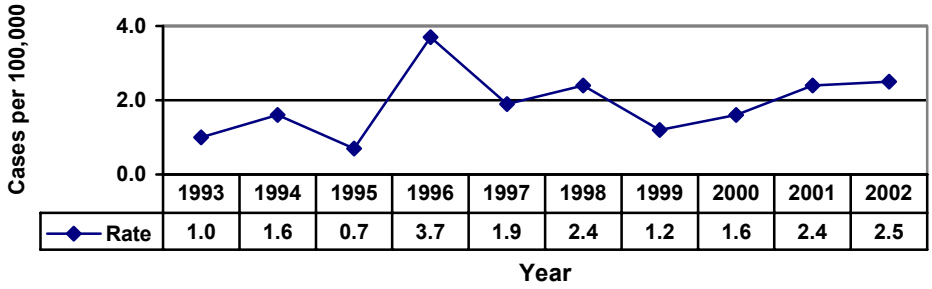
Confirmed: A case that is culture positive and in which an acute cough illness of any duration is present; or a case that meets the clinical case definition and is confirmed by positive PCR; or a case that meets the clinical case definition and is epidemiologically linked directly to a case confirmed by either culture or PCR.

Probable: A case that meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to a laboratory-confirmed case.

Comment

The clinical case definition is appropriate for endemic or sporadic cases. In outbreak settings, a case may be defined as a cough illness lasting ≥2 weeks. Because some studies have documented that direct fluorescent antibody testing of naso-pharyngeal secretions has low sensitivity and variable specificity, it should not be relied on as a criterion for laboratory confirmation. Serologic testing for pertussis is available in some areas but is not standardized and, therefore, should not be relied on as a criterion for laboratory confirmation for national reporting purposes. Both probable and confirmed cases should be reported to the National Notifiable Disease Surveillance System.

Pertussis Incidence
Kentucky, 1993-2002

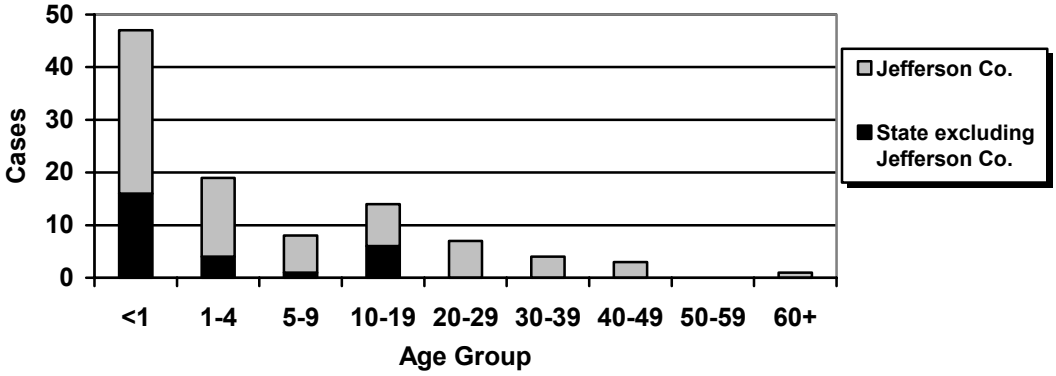


Epidemiology

Kentucky 2002		Rate per 100,000	U.S. Rate (2001) per 100,000
Cases	103	2.5	2.69

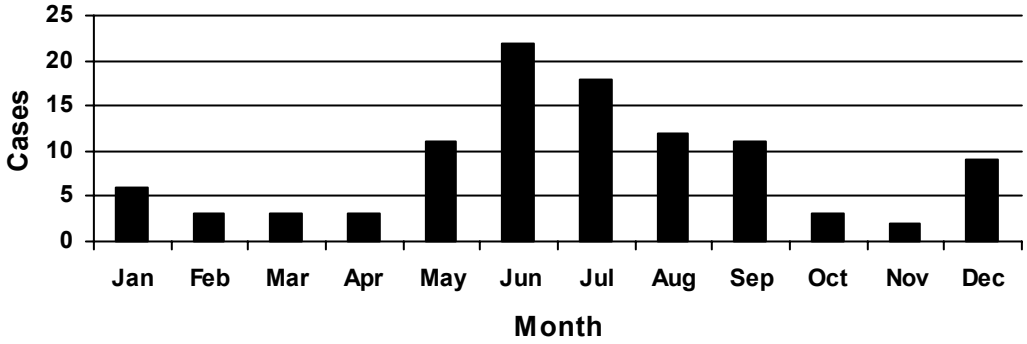
Cases by Gender			Cases by Race		Rate per 100,000
Female	57	2.7	African/Am.	25	8.4
Male	46	2.3	Caucasian	73	2.0
			Other	3	2.8
			Unknown	2	

Pertussis, Cases by Age Group
Kentucky 2002

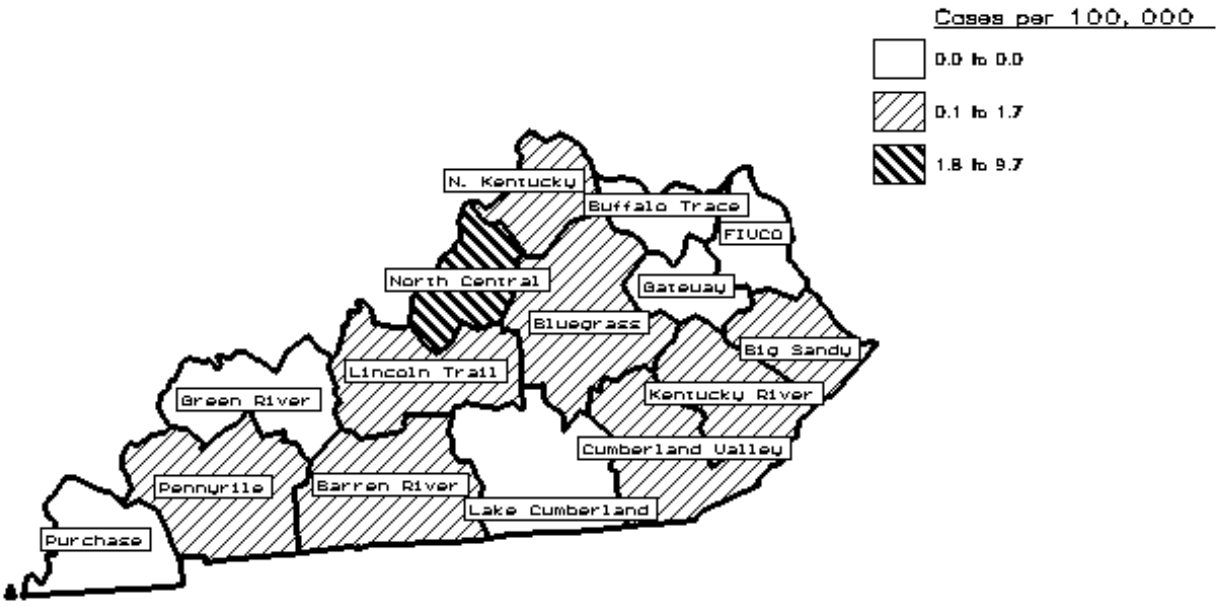


This chart shows actual case numbers in each age group. Children in the less than one year of age group had the highest rate at 92 cases per 100,000, followed by the 1-4 year age group at 9 cases per 100,000. Seventy-four percent of the cases reported occurred in Jefferson County for a county rate of 10.9 cases per 100,000.

Pertussis, Reported Cases by Month of Onset
Kentucky, 2002



Pertussis by District, Kentucky
Annual Incidence 2002



Districts Reporting Cases	2002	
Rate per 100,000	Cases	Rate
Pennyrile District	1	0.5
Barren River District	1	0.4
Lincoln Trail District	2	0.8
North Central District	85	9.7
Northern Kentucky District	5	1.3
Big Sandy District	1	0.6
Kentucky River District	1	0.8
Cumberland Valley	4	1.7
Bluegrass District	3	0.4

The North Central District reported the highest rate of 9.7 cases per 100,000, followed by the Cumberland Valley District with 1.7 cases per 100,000.